

REMARKS

In the Office Action, the Examiner rejected claims 1-15, 18-33, 36-43 and 46-48. Applicants have amended claims 1, 20, 38, 42, 46, 47, and 48. No new matter has been added. Upon entry of these amendments, claims 1-15, 18-33, 36-43, and 46-48 will be pending in the present application. In view of the foregoing amendments and following remarks, all pending claims are believed to be in condition for allowance. It should be noted that claim 42 has been amended to correct a typographical error. Support for the correction to claim 42 can be found in the specification at page 36, line 26 and page 37, line 6.

Rejections Under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 46-48 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner stated:

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 46-48 also provide a listing of metallocenes that are excluded from claimed process. The structures revealed on pages 11-13 of the specification clearly show that all compounds listed in claims 46-48, except nonylphenylsilylbis(1-indenyl)hafnium dichloride, are preferred embodiments of the invention.

Office Action, p. 2. While Applicants do not necessarily agree with the Examiner's assertions, the rejection is moot in light of the amendments to claims 46-48.

Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of claims 46-48 under Section 112.

First Rejection Under 35 U.S.C. § 102(b)

In the Office Action, the Examiner rejected claims 38-43 under 35 U.S.C. § 102(b) as being anticipated by McDaniel et al., U.S. Patent No. 6,355,594 (hereafter "McDaniel '594"). Of these rejected claims, claim 38 is independent. Specifically, the Examiner stated:

McDaniel et al. discloses a catalyst comprising at least one organometal compound, at least one organoaluminum, and at least one fluorided silica-alumina (claim 1). The organometal compound is 1,2-ethanediylbis(indenyl)di-n-butoxyhafnium, 1,2-ethanediylbis(indenyl) dimethyl zirconium, 3,3 -pentanediylbis(tetrahydroindenyl)hafnium dichloride, methylphenylsilylbis(tetrahydroindenyl) zirconium dichloride, dimethylsilylbis(indenyl) zirconium dichloride, dimethylsilyl-bis(tetrahydroindenyl)zirconium dichloride, dimethylsilyl-bis(2-methylindenyl) zirconium dichloride, 1,2-ethanediylbis(fluorenyl) zirconium dichloride, or methyloctylsilylbis(fluorenyl) zirconium dichloride (claim 32). The organoaluminum component is defined in claim 1 and identified in col. 10, lines 35-44.

Office Action, page 5. Applicants respectfully traverse this rejection.

Legal Precedents

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *See Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir.1985). Every element of the claimed invention must be identically shown in a single reference. *See In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir.1990). Indeed, the prior art reference must show the *identical invention* “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

Independent Claim 38

Independent claim 38 recites, *inter alia*:

wherein the at least one chemically-treated solid oxide is fluorided alumina, fluorided silica-titania, fluorided silica-zirconia, chlorided alumina, chlorided silica-alumina, chlorided silica-zirconia, chlorided zinc-aluminum oxide, sulfated alumina, sulfated silica-alumina, sulfated silica-zirconia, bromided alumina, bromided silica-alumina, bromided silica-zirconia, or any combination thereof.

In contrast, McDaniel ‘594 does not disclose any of the above chemically-treated solid oxides recited in claim 38. Instead, McDaniel ‘594 focuses solely on “at least one *fluorided silica-alumina* to produce said catalyst composition.” *See* McDaniel ‘594, col. 10, lines 46-48 (emphasis added). For McDaniel ‘594 to anticipate under Section 102, every element of claim 38 must be identically shown. Thus, because McDaniel ‘594 does not disclose the chemically treated oxides found in claim 38, the cited reference cannot

anticipate claim 38. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 102(b), and allow independent claim 38 and its dependent claims 39-43.

Second Rejection Under 35 U.S.C. § 102(b)

In the Office Action, the Examiner rejected claims 1-15, 18, 20-33, and 36 under 35 U.S.C. § 102(b) as being anticipated by McDaniel '594. Of these rejected claims, claims 1 and 20 are independent. Specifically, the Examiner stated:

The inventors teach that use of to prepare copolymer of ethylene and at least one other monomer selected from the group consisting of propylene, 1-butene, 1-hexene, etc. (col. 134, lines 13-16) by contact of olefins with the catalyst. Polymerizations are carried out in isobutene diluent (col. 13, line 37). There is no disclosure of the properties of copolymers prepared in such a manner, however, in view of the fact that the catalyst and process used to prepare copolymer are essentially the same as that described in the instant claims, a reasonable basis exists to believe that the copolymer will exhibit substantially the same properties. It is noted that the film properties such as clarity and haze are also a consequence of processing methods — nucleation, stretching, *inter alia*. However, one having ordinary skill in the art also would have expected copolymers to exhibit the claimed film properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). See MPEP § 2112-2112.02.

Office Action, page 5. Applicants respectfully traverse this rejection.

Legal Precedents

If the Examiner relies on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999). In relying upon the theory of inherency, the Examiner bears the evidentiary burden and must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Independent Claims 1 and 20

Independent claims 1 and 20 recite, *inter alia*:

wherein the at least one chemically-treated solid oxide is fluorided alumina, fluorided silica-titania, fluorided silica-zirconia, chlorided alumina, chlorided silica-alumina, chlorided silica-zirconia, chlorided zinc-aluminum oxide, sulfated alumina, sulfated silica-alumina, sulfated silica-zirconia, bromided alumina, bromided silica-alumina, bromided silica-zirconia, or any combination thereof.

In contrast, as with independent claim 38 discussed above, McDaniel '594 does not disclose any of the chemically-treated solid oxides recited in claims 1 and 20. Again, McDaniel '594 focuses instead on "*fluorided silica-alumina*" [as the solid oxide] to produce said catalyst composition." See McDaniel '594, col. 10, lines 46-48 (emphasis

added). Thus, because McDaniel '594 does not disclose the chemically treated oxides found in independent claims 1 and 20, the cited reference cannot anticipate the instant claims.

In addition, independent claims 1 and 20 recite properties of the produced copolymer, including "a polydispersity index of less than or equal to about 20," and "a film clarity of less than or equal to about 30%." Conversely, as acknowledged by the Examiner, McDaniel '594 does not disclose polymer properties. *See* Office Action, page 5. Further, Applicants respectfully assert that the presently-recited catalyst system and the McDaniel '594 catalyst system are different. In the field of catalyst technology, even relatively small changes can produce significant differences in polymer properties. Therefore, without an indication that the properties of the polymer produced would be the same, McDaniel '594 cannot anticipate claims 1 and 20.

Furthermore, Applicants stress that the Examiner's reference to the *In re Best* and *In re Fitzgerald* cases is misplaced. *See* Office Action, page 5 (citing *In re Best*, 195 U.S.P.Q. at 430 and *In re Fitzgerald*, 205 U.S.P.Q. at 594). The reasoning in these two cases with regard to the evidentiary burden of the PTO is directed to product-by-process type claims where it is difficult for the PTO to show that a unique process provides claimed physical characteristics. *See, e.g., In re Best*, 195 U.S.P.Q. at 432-33. In

contrast, here, Applicants do *not* recite product-by-process claims. In addition, the claimed properties of the polymer are readily measurable.

In view of the foregoing, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 102(b), and allow independent claims 1 and 20, and their respective dependent claims 2-15, 18, 21-33, and 36.

First Rejection Under 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 38-43 and 48 under 35 U.S.C. § 102(e) as being anticipated by Hawley et al., U.S. Patent No. 6,667,274 (hereinafter “Hawley”). Specifically, the Examiner stated:

Hawley *et al.* discloses a catalyst comprising rac-dimethylsilylbis(indenyl) zirconium dichloride (A), rac-1,2-ethanediylbis(indenyl)zirconium dichloride (B), dimethylsilyl-bis(2-methylindenyl) zirconium dichloride (C), and rac-ethylenebis(2-methylindenyl) zirconium dichloride (D), triethylaluminum, and chlorided, zinc-containing alumina (Table II). Compound (D) is not one of the excluded compounds recited in the Markush group of claim 48.

Office Action, p. 7. Applicants respectfully traverse this rejection.

Independent Claims 38 and 48

Claims 38 and 48, as amended, recite tightly-bridged metallocenes that expressly exclude the Hawley catalyst compounds pointed to by the Examiner. *See* Office Action, p.7. Plainly, Hawley does not disclose every element of claims 38 and 48, as amended. Accordingly, Applicants respectfully request that the Examiner withdraw this rejection under 35 U.S.C. § 102 (e), and allow independent claims 38 and 48, and their dependent claims.

Second Rejection Under 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 1-15, 18, 20-33, 36, and 38-43 under 35 U.S.C. § 102(e) as being anticipated by McDaniel et al., U.S. Patent No. 6,613,852 (hereinafter “McDaniel ‘852”). Specifically, the Examiner stated that “McDaniel et al. discloses a catalyst comprising at least one organometal compound, at least one organoaluminum, and at least one fluorided silica-alumina (claim 1).” Office Action, p. 7. Applicants respectfully traverse this rejection.

Independent Claims 1, 20, and 38

Independent claims 1, 20, and 38 recite, *inter alia*:

- wherein the at least one chemically-treated solid oxide is fluorided alumina, fluorided silica-titania, fluorided silica-zirconia, chlorided alumina, chlorided silica-alumina, chlorided silica-zirconia, chlorided zinc-aluminum oxide, sulfated alumina, sulfated silica-alumina, sulfated silica-

zirconia, bromided alumina, bromided silica-alumina, bromided silica-zirconia, or any combination thereof.

In contrast, McDaniel '852 does not disclose any of the above chemically-treated solid oxides recited in claims 1, 20, and 38. Instead, McDaniel '852 discloses that its catalyst composition is "a post-contacted fluorided silica-alumina." *See* McDaniel '852, col. 12, lines 13-17. Indeed, "the post-contacted fluorided silica-alumina is the majority, by weight, of the [McDaniel '852] catalyst composition." *See id.* Given that the disclosed fluorided silica-alumina is not a component found in our claims, and also given that McDaniel '852 does *not* disclose any of the chemically-treated solid oxides recited in claims 1, 20, and 38, it is clear that Mc Daniel '852 cannot anticipate the instant claims. Accordingly, Applicants respectfully request that the Examiner withdraw this rejection under 35 U.S.C. § 102(e), and allow independent claims 1, 20, and 38, and their respective dependent claims 2-15, 18, 21-33, 36, and 39-43.

Third Rejection Under 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 38-43 under 35 U.S.C. § 102(e) as being anticipated by McDaniel et al., U.S. Patent No. 6,548,442 (hereinafter "McDaniel '442"). Specifically, the Examiner stated:

McDaniel *et al.* discloses a catalyst comprising at least one organometal compound, at least one organoaluminum, and at least one chlorided, bromided, or fluorided silica-alumina (claim 1). The solid oxide also comprises an additional metal selected from Zn, Ag, Cu, Sb, Ga, Sn, Ni, or W (claim 3). The organoaluminum component is defined in

claim 1 and identified in col. 10, lines 35-44. The organometal compounds are listed in claim 31.

Office Action, p. 8. Applicants respectfully traverse this rejection.

Independent Claim 38

As discussed, claim 38 recites a formula for tightly-bridged metallocene compounds. Applicants amended claim 38 to expressly exclude from this recited formula the catalyst compounds disclosed by McDaniel '442. Thus, the cited reference does not teach each and every element of claim 38. Accordingly, Applicants respectfully request that the Examiner withdraw this rejection under 35 U.S.C. § 102(e), and allow independent claim 38 and its dependent claims 39-43.

First and Second Rejections Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-15, 18-33, and 36-43 under 35 U.S.C. § 103(a) as being unpatentable over McDaniel et al., U.S. Patent No. 6,376,415 (hereinafter "McDaniel '415"). Applicants respectfully traverse these rejections.

With regard to claims 38-43, the Examiner specifically stated:

McDaniel *et al.* discloses a catalyst comprising at least one organometal compound, at least one organoaluminum, and at least one treated solid oxide, wherein said treated solid oxide comprises molybdenum, a halogen selected from chloride or bromide, and a solid oxide selected from alumina, aluminophosphate, or aluminosilicate (claim 1). The organometal is selected from 1,2-ethanediylbis

(indenyl) di-n-butoxyhafnium, 1,2-ethanediylbis (indenyl) dimethylzirconium, 3,3-pentanediyylbis (tetrahydroindenyl) hafnium dichloride, methylphenylsilylbis (tetrahydroindenyl) zirconium dichloride, dimethylsilylbis (indenyl) zirconium dichloride, dimethylsilylbis (tetrahydroindenyl) zirconium dichloride, dimethylsilylbis (2-methylindenyl) zirconium dichloride, 1,2-ethanediylbis (fluorenyl) zirconium dichloride, or methyloctylsilylbis(fluorenyl) zirconium dichloride (claim 32). The organoaluminum component is defined in claim 1 and identified in col. 10, lines 36-45. The reference does not disclose examples of catalysts containing the claimed metallocenes, organoaluminum, and bromided alumina. However, McDaniel *et al.* clearly contemplates such a catalyst. The inventors disclose bromided solid oxides in the claims and they teach how to prepare them chemically (col. 12, lines 16-18 and 23- 28). Furthermore, McDaniel *et al.* discloses a limited genus of solid oxide that one having ordinary skill in the art would have immediately envisioned the claimed species (bromided alumina). Therefore, it would have been obvious to one having ordinary skill in the art to make the catalyst composition of claims 38-43 from the teachings of McDaniel *et al.*, and he would have expected such a catalyst to work with a reasonable expectation of success.

Office Action, p. 3.

With regard to claims 1-15, 18-33, 36, and 37 the Examiner specifically stated:

The reference teaches that catalysts are useful in preparing copolymer. In this case, catalysts are used to prepare copolymer of ethylene and at least one other monomer selected from the group consisting of propylene, 1 -butene, 1 -hexene, etc. (col. 14, lines 24-27). One having ordinary skill in the art would have found it obvious to use the catalyst of the prior art for making ethylene-1a-olefin copolymer because McDaniel *et al.*, teaches such an application. There is no disclosure of the properties of copolymers prepared in such a manner, however, in view of

the fact that the catalyst and process used to prepare copolymer are essentially the same as that described in the instant claims, a reasonable basis exists to believe that the copolymer will exhibit substantially the same properties. It is noted that the film properties such as clarity and haze are also a consequence of processing methods - nucleation, stretching, inter alia. However, one having ordinary skill in the art also would have expected copolymers to exhibit the claimed film properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference.

Office Action, p. 4.

Legal Precedents

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the reasons to combine or modify the cited references. *See In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). The Supreme Court has recently stated that the obviousness analysis should be explicit. *See KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350, page 14 (U.S., decided April 30, 2007). “[R]jections based on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the

legal conclusion of obviousness.” *See id.* (quoting *In re Kahn*, 441 F.3d 977,988 (Fed. Cir. 2006)).

Independent Claims 1, 20, and 38

Independent claims 1, 20, and 38 recite, *inter alia*:

wherein the at least one chemically-treated solid oxide is fluorided alumina, fluorided silica-titania, fluorided silica-zirconia, chlorided alumina, chlorided silica-alumina, chlorided silica-zirconia, chlorided zinc-aluminum oxide, sulfated alumina, sulfated silica-alumina, sulfated silica-zirconia, bromided alumina, bromided silica-alumina, bromided silica-zirconia, or any combination thereof.

Conversely, McDaniel ‘415 does not disclose any of the above chemically-treated solid oxides. Instead, McDaniel ‘415 discloses:

The treated solid oxide compound comprises a halogen, transition metal, and a solid oxide compound...The transition metal is selected from the group consisting of *tungsten* and *molybdenum*. The solid oxide compound is selected from the group consisting of *alumina*, or *aluminophosphate*, *aluminosilicate*, and mixtures thereof.

col. 10, lines 47-53 (emphasis added).

Independent claims 1, 20, and 38, as amended, recite that the chemically-treated solid oxide is substantially free of molybdenum and tungsten. Support for the amendments to the instant claims to exclude molybdenum and tungsten can be found in the specification on page 27, line 7. In contrast, McDaniel ‘415 only discloses solid

oxides that contain molybdenum and/or tungsten. *See* McDaniel '415, col. 10, line 51; col. 16, lines 1 and 25. Therefore, the instant claims are patentable over McDaniel '415.

Further, claim 38, as amended, specifically excludes the McDaniel '415 catalyst compounds (cited by the Examiner) from the recited formula for the tightly-bridged metallocene compounds. Thus, for this additional reason, it is clear that McDaniel '425 does not teach all of the elements of claim 38. Therefore, claim 38 and its dependent claims are patentable over McDaniel '415 for this reason.

Lastly, as discussed, independent claims 1 and 20 recite properties of the produced copolymer, including "a polydispersity index of less than or equal to about 20," and "a film clarity of less than or equal to about 30%." Conversely, as acknowledged by the Examiner, McDaniel '415 does not disclose polymer properties. *See* Office Action, page 4. Further, as with McDaniel '594, the presently-recited catalyst system and the McDaniel '415 catalyst system are different. As previously discussed, the catalyst systems may be unpredictable, with seemingly small differences in catalyst systems producing polymer having significantly different properties. Therefore, McDaniel '415 cannot anticipate claims 1 and 20 for these additional reasons.

In view of the foregoing, the instant claims are clearly patentable over McDaniel '415. Accordingly, Applicants respectfully request that the Examiner withdraw the

rejection under 35 U.S.C. § 103(a), and allow independent claims 1, 20, and 38, and their respective dependent claims 2-15, 18,19, 21-33, 36, 37, and 39-43.

Third Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-15, 18, 20-33, and 36 (in the alternative of the rejection under Section 102 discussed above) under 35 U.S.C. § 103(a) as obvious over McDaniel '594. Applicants respectfully traverse this rejection.

Independent Claims 1 and 20

As discussed with regard to the rejections under § 102, independent claims 1 and 20 recite a list of solid oxides not taught by McDaniel '594. Conversely, McDaniel '594 relies completely on a solid oxide support (fluorided silica-alumina) not found in the instant claims to produce the catalyst composition. Col. 1, lines 58-63. Therefore, McDaniel '594 does not recite each and every element of independent claims 1 and 20.

Further, as discussed above, claims 1 and 20 recite properties of the produced copolymer. In contrast, McDaniel '594 does not have any teaching or suggestion of polymer properties. As previously discussed, seemingly small differences in catalyst composition may result in large differences in polymer properties. Thus, in view of the differences in the catalyst compositions of that recited in the claims as compared to that

taught in the McDaniel '594, the catalyst compositions are not "essentially the same," and may not produce polymers having the same properties.

In view of these reasons, the foregoing claims are clearly patentable over McDaniel '594. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection under 35 U.S.C. § 103(a), and allow independent claims 1 and 20, and their respective dependent claims 2-15, 18,19, 21-33, 36, and 37.

Fourth Rejection Under 35 U.S.C. § 103

The Examiner rejected claims 46-48 under 35 U.S.C. § 103(b) as being obvious over McDaniel '594 in view of Welch et al., U.S. Patent No. 5,594,078 (hereinafter "Welch") or Schertl et al., U.S. Patent No. 5,668,230 (hereinafter "Schertl"). The Examiner specifically stated:

McDaniel et al. discloses a catalyst comprising at least one organometal compound, at least one organoaluminum, and at least one fluorided silica-alumina (claim 1). The organoaluminum component is defined in claim 1 and identified in col. 10, lines 35-44. Organometal compounds that are used for the invention are disclosed in U.S. 5,668,230 and U.S. 5,594,078), the entire disclosures of which are incorporated by reference; see col. 4, lines 40-45. Turning to the incorporated references, one observes that Welch et al. discloses use of tightly bridged metallocenes diphenylsilylbis(fluorenyl)zirconium dichloride, methylene-(cyclopentadienyl)(fluorenyl)zirconium dichloride, and ethylene(indenyl)(fluorenyl)zirconium dichloride are exceptional components in polymerization catalysts; see claim 8. Schertl et al. teaches use of a series of tightly bridged

complexes that are highly useful for making olefin polymerization catalysts; see Table I, claims 3-13. Since McDaniel et al. contemplates use of these compounds in their catalyst systems, as evidenced by incorporation by reference, it would have been obvious to one having ordinary skill in the art to make a catalyst as per McDaniel. using the compounds of Welch et al. or Schertl et al. and thereby arrive at the subject matter of the instant claims. Since only the metallocene varies, and since metallocenes of the secondary references have been shown to be useful, one having ordinary skill in the art would have expected to combination of teachings to result in the formation of an active catalyst with a reasonable expectation of success.

There is no disclosure of the properties of copolymers prepared in such a manner, however, in view of the fact that the catalyst and process used to prepare copolymer are essentially the same as that described in the instant claims, a reasonable basis exists to believe that the copolymer will exhibit substantially the same properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference.

Office Action, p. 6. Applicants respectfully traverse this rejection.

As a preliminary matter, Applicants note that the '594 reference, Welch, and Schertl appear to be improper references under 35 U.S.C. § 103(b). Applicants assume that the Examiner intended this rejection to be under 35 U.S.C. § 103(a) and not § 103(b).

Independent claims 46, 47, and 48

As mentioned, McDaniel '594 only discloses fluorided silica-alumina as the solid oxide. In contrast, claims 46-48 have been amended to delete fluorided silica-alumina from the recited list of chemically-treated solid oxides. In view of this amendment, it is

clear that McDaniel '594 does not teach or suggest any of the presently-recited solid-oxide compounds.

Moreover, the secondary references (Welch and Schertl) do not teach or suggest any solid oxides. The Welch catalyst system teaches only "a bridged fluorenyl-containing metallocene, an unbridged metallocene, and a suitable cocatalyst" as the catalyst system components. *See, e.g.*, Welch, Abstract, lines 1-4. The Schertl catalyst system only includes a metallocene and cocatalyst. *See* Schertl, col. 1, lines 32-34. Clearly, the secondary references do not obviate the deficiencies of McDaniel '594 with regard to the disclosure of solid oxides.

Therefore, the three cited references taken alone or in combination, fail to teach or suggest the use of the chemically treated solid oxides recited in claims 46-48. Applicants respectfully request that the rejection of claims 46-48 as obvious over McDaniel '594 in view of Welch and Schertl be withdrawn.

Authorization for Extension of Time and Payment of Fees

In accordance with 37 C.F.R. § 1.136, Applicant hereby petitions to extend the period for response to the Office Action for one month, from June 8, 2007 to July 8, 2007 (or the first Monday thereafter, July 9, 2007). Based on this one month extension, the Applicant authorizes the Commissioner to charge the appropriate fee of \$120 to the credit

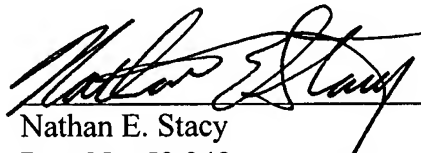
card listed on the enclosed PTO-2038. Should any additional fees be due, including fees for additional claims and extensions of time, if the PTO-2038 is missing, if the amount listed thereon is insufficient, or if the amount is unable to be charged to the credit card for any other reason Applicants hereby authorize the Commissioner to charge Deposit Account No. 06-1315; Order No. CPCM:0046/FLE/FAR/STA (210048US00).

Conclusion

In view of the remarks set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: July 9, 2007


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